

# Publications by Jared Miller

## A) JOURNAL PAPERS

- 1) J. Miller, Y. Zheng, M. Sznaier, and A. Papachristodoulou, “Decomposed structured subsets for semidefinite and sum-of-squares optimization,” *Automatica*, vol. 137, pp. 110–125, 2022
- 2) J. Miller, D. Henrion, and M. Sznaier, “Peak Estimation Recovery and Safety Analysis,” *IEEE Control Systems Letters*, vol. 5, no. 6, pp. 1982–1987, 2021
- 3) J. Miller, M. A. Al-Radhawi, and E. D. Sontag, “Mediating Ribosomal Competition by Splitting Pools,” *IEEE Control Systems Letters*, vol. 5, no. 5, pp. 1555–1560, 2021

## B) CONFERENCE PROCEEDINGS

- 4) J. Miller, D. Henrion, M. Sznaier, and M. Korda, “Peak Estimation for Uncertain and Switched Systems,” in *2021 60th IEEE Conference on Decision and Control (CDC)*, 2021 (TK, preprint at <https://arxiv.org/abs/2103.13017>)
- 5) J. Miller, R. Singh, and M. Sznaier, “MIMO System Identification by Randomized Active-Set Methods,” in *2020 59th IEEE Conference on Decision and Control (CDC)*, pp. 2246–2251, 2020
- 6) J. Miller, Y. Zheng, M. Sznaier, and A. Papachristodoulou, “Decomposed Structured Subsets for Semidefinite Optimization,” in *2020 21st IFAC World Congress*, 2020
- 7) C. Wu, J. Miller, Y. Chang, M. Sznaier, and J. Dy, “Solving Interpretable Kernel Dimensionality Reduction,” in *Advances in Neural Information Processing Systems* (H. Wallach, H. Larochelle, A. Beygelzimer, F. d’Alché-Buc, E. Fox, and R. Garnett, eds.), vol. 32, pp. 7915–7925, Curran Associates, Inc., 2019
- 8) J. Miller, Y. Zheng, B. Roig-Solvas, M. Sznaier, and A. Papachristodoulou, “Chordal Decomposition in Rank Minimized Semidefinite Programs with Applications to Subspace Clustering,” in *2019 IEEE 58th Conference on Decision and Control (CDC)*, pp. 4916–4921, 2019
- 9) J. Miller and B. Shafai, “A Model of Heave Dynamics for Bagged Air Cushioned Vehicles,” in *2019 IEEE Conference on Control Technology and Applications (CCTA)*, pp. 976–981, 2019
- 10) B. Taskazan, J. Miller, U. Inyang-Udoh, O. Camps, and M. Sznaier, “Domain Adaptation Based Fault Detection in Label Imbalanced Cyberphysical Systems,” in *2019 IEEE Conference on Control Technology and Applications (CCTA)*, pp. 142–147, 2019
- 11) J. Miller and M. Sznaier, “Bounding the Distance to Unsafe Sets with Convex Optimization,” 2021. arXiv: 2110.14047
- 12) J. Miller and M. Sznaier, “Facial input decompositions for robust peak and reachable set estimation under polyhedral uncertainty,” 2021. arXiv: 2112.14838
- 13) “Exploiting Structure in Rank-Constrained and Approximated Semidefinite Programs”, December 19, 2019, TISEM Operations Research Seminar, Tilburg University. Related to [1], [8].
- 14) “Data-Driven Peak and Reachability Set Estimation”, May 25, 2021, MS112 Methods of Learning Dynamical Systems for Control, SIAM Conference on Dynamical Systems. Related to [12].
- 15) “Analysis and Control of Time-Delay Systems with Occupation Measures”, May 3, 2021, BrainPOP, LAAS-CNRS. Work not yet published, in preparation.
- 16) “Exploiting SDP Structure Yields Tighter Approximations.” April 9, 2020. RISE, Northeastern University (remote). Related to [1].
- 17) “Exploiting SDP Structure Yields Tighter Approximations.” February 24, 2020. IPAM Control, Learning and Optimization workshop, University of California, Los Angeles. Related to [1].
- 18) “Chordal Decompositions in Rank Minimized SDPs.” May 30–31, 2019. Learning for Decision and Control (L4DC), Massachusetts Institute of Technology. Related to [8].
- 19) “Chordal Decompositions in Rank Minimized SDPs.” May 10, 2019. New England Machine Learning Day, Northeastern University. Related to [8].
- 20) “Scattered data interpolation through B-spline wavelets and the Elastic Net.” April 14, 2017. RISE, Northeastern University.
- 21) “A parallelized Python-based Multi-Point Thomson Scattering analysis in NSTX-U.” October 29, 2014. 56th Annual APS Plasma Physics Conference, New Orleans.

## E) POSTER SESSIONS

- 17) “Exploiting SDP Structure Yields Tighter Approximations.” April 9, 2020. RISE, Northeastern University (remote). Related to [1].
- 18) “Exploiting SDP Structure Yields Tighter Approximations.” February 24, 2020. IPAM Control, Learning and Optimization workshop, University of California, Los Angeles. Related to [1].
- 19) “Chordal Decompositions in Rank Minimized SDPs.” May 30–31, 2019. Learning for Decision and Control (L4DC), Massachusetts Institute of Technology. Related to [8].
- 20) “Chordal Decompositions in Rank Minimized SDPs.” May 10, 2019. New England Machine Learning Day, Northeastern University. Related to [8].
- 21) “Scattered data interpolation through B-spline wavelets and the Elastic Net.” April 14, 2017. RISE, Northeastern University.
- 22) “A parallelized Python-based Multi-Point Thomson Scattering analysis in NSTX-U.” October 29, 2014. 56th Annual APS Plasma Physics Conference, New Orleans.

## C) ARXIV PREPRINT

- 11) J. Miller and M. Sznaier, “Bounding the Distance to Unsafe Sets with Convex Optimization,” 2021. arXiv: 2110.14047
- 12) J. Miller and M. Sznaier, “Facial input decompositions for robust peak and reachable set estimation under polyhedral uncertainty,” 2021. arXiv: 2112.14838

## D) SEMINARS

- 13) “Bounding distances to unsafe sets”, June 28, 2021, Brainstorming days on measure and polynomial optimization (BrainPOP), LAAS-CNRS. Related to [11].
- 14) “Data-Driven Peak and Reachability Set Estimation”, May 25, 2021, MS112 Methods of Learning Dynamical Systems for Control, SIAM Conference on Dynamical Systems. Related to [12].
- 15) “Analysis and Control of Time-Delay Systems with Occupation Measures”, May 3, 2021, BrainPOP, LAAS-CNRS. Work not yet published, in preparation.